INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1991	**Park:** Shenandoah NP
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Permit#:
SHEN1991ABCK

Park-assigned Study Id. #:
unknown

Project Title:
Introduction and spread of Entomophaga maimaiga in the Southern Appalachians

Permit Start Date: Jan 01, 1998	**Permit Expiration Date** Jan 01, 1998
Study Start Date: Jan 01, 1990	**Study End Date** Jan 01, 1992

Study Status:
Completed

Activity Type:
Other

Subject/Discipline:
Invertebrates (Insects, Other)

Objectives:
1. Introduce E. maimaiga into gypsy moth populations in the Appalachian area and evaluate its impact.;2. Determine the rate of spread of E. maimaiga from areas of introduction and those abiotic and biotic factors influencing spread.

Findings and Status:
Percentages of larvae that were positive for E. maimaiga at release sites varied from 0% to 81.21% and averaged 23.98% (SE=4.87). Infection levels in plots where spores received water were greater (mean=15.76%, SE=7.04) than infection levels at comparable plots that did not receive water (mean=3.54%, SE=2.18). E. maimaiga was recovered from sites up to 350 m from the point of release. Percentage of cadavers infected with E. maimaiga declined with distance from the site. E. maimaiga was also recovered from a few cadavers from 3 of 15 control sites (2 out of the 3 in the Park). This raises the possibility that the occurrence of E. maimaiga at both release and control sites was caused by the natural spread of the agent from areas further north. However, the fact that levels of infection in control sites were confined to a few scattered cadavers at 3 out of 15 sites leads us to believe that the fungus was accidentally transported to the sites by field workers who travelled frequently between release and control sites while collecting samples. The far higher levels of infection in most release sites and the decline in infection with distance from the central release point indicates that the main source of infection was the infected soil placed at the center.

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?
No

Funding provided this reporting year by NPS: 0	**Funding provided this reporting year by other sources:** 45000

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university:	Annual funding provided by NPS to university or college this reporting year:
n/a	0